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HEWLETT-PACKARD COMPANY  
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EXAMINER

NGUYEN, HOAI AN D

ART UNIT PAPER NUMBER

2854

DATE MAILED: 12/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/995,900

Applicant(s)

DOWNING, STEVEN P.

Examiner

Hoai-An D. Nguyen

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AW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see paper number 5, filed on September 25, 2003, with respect to the rejection(s) of claim(s) 1-8, 17, 18 and 20-23 under 35 U.S.C. 102(e) and 9-16 and 19 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Yoshizawa (US 6,301,452) and Kataoka (US 6,070,023) individually or in combination.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoshizawa (US 6,301,452).

#### **Yoshizawa teaches an image forming apparatus comprising:**

- A print medium drive mechanism (FIG. 8, feed roller 27, conveying roller 28, and lower conveying roller 902) configured to advance the print medium through the

print zone (FIG. 8, transfer area by registration rollers 26 and second transfer roller 9) (Column 10, lines 34-45), with regard to claims 1, 17 and 22.

- A pinch roller mechanism (FIG. 8, upper conveying roller 901) biased against the print medium drive mechanism and configured to deflect away from the print medium drive mechanism as the print medium passes between the pinch roller mechanism and print medium drive mechanism (Column 10, lines 46-60), with regard to claims 1, 17, 18 and 22.
- A proximity sensor (FIG. 8 and FIG. 9, displacement sensor 903) configured to measure the extent of deflection of the pinch roller mechanism (Column 10, lines 46-60), with regard to claims 1, 17 and 22.
- A processing device (FIG. 9, CPU) coupled to the proximity sensor and configured to determine a thickness of the print medium based on the measured extent of deflection of the pinch roller mechanism (Column 10, lines 34-45, and from column 5, line 66 to column 6, line 32), with regard to claim 2.
- The proximity sensor is further configured to output a signal indicative of the extent of deflection of the pinch roller mechanism and the processing device is further configured to receive the signal from the proximity sensor and determine the print medium thickness based on this signal (Column 11, lines 1-10), with regard to claim 3.
- The processing device is further configured to enable initial deposition of printing composition on the print medium by the printing device after receiving the signal

from the proximity sensor (FIG. 6, steps 706-711, and column 10, lines 34-45), with regard to claims 4 and 21.

- The apparatus of claims 1 and 22 is in a printing device (FIG. 8, image forming apparatus) (Column 2, lines 63-65), with regard to claims 5 and 23.
- The print medium drive mechanism includes a drive roller (FIG. 8, registration rollers 26 and conveying roller 28) (Column 4, lines 1-19), with regard to claims 6 and 20.
- The proximity sensor is positioned adjacent the pinch roller mechanism (FIG. 8) (Column 10, lines 46-60), with regard to claim 7.
- The proximity sensor is integral with the pinch roller mechanism (FIG. 8) (Column 10, lines 46-60), with regard to claim 8.
- A print medium drive mechanism (FIG. 1, feed roller 27, conveying roller 28, and lower guide 24) configured to advance the print medium through the print zone (FIG. 1, transfer area by registration rollers 26 and second transfer roller 9) (Column 4, lines 1-19), with regard to claim 9.
- A shim (FIG. 1, upper guide 23) biased against the print medium drive mechanism and configured to deflect away from the print medium drive mechanism as the print medium passes between the shim and print medium drive mechanism (From column 5, line 51 to column 6, line 4), with regard to claims 9 and 19.
- A proximity sensor (FIG. 1, displacement sensor 22) configured to measure the extent of deflection of shim (From column 5, line 58 to column 6, line 4), with regard to claim 9.

- A processing device (FIG. 2, CPU) coupled to the proximity sensor and configured to determine a thickness of the print medium based on the measured extent of deflection of the shim (From column 5, line 66 to column 6, line 32), with regard to claim 10.
- The proximity sensor is further configured to output a signal indicative of the extent of deflection of the pinch roller mechanism and the processing device is further configured to receive the signal from the proximity sensor and determine the print medium thickness based on this signal (From column 6, line 62 to column 7, line 24), with regard to claim 11.
- The processing device is further configured to enable initial deposition of printing composition on the print medium by the printing device after receiving the signal from the proximity sensor (FIG. 6, steps 706-711, and column 7, lines 1-24), with regard to claim 12.
- The apparatus of claim 9 is in a printing device (FIG.1, image forming apparatus) (Column 2, lines 63-65), with regard to claim 13.
- The print medium drive mechanism includes a drive roller (FIG. 1, registration rollers 26 and conveying roller 28, and column 4, lines 1-19), with regard to claim 14.
- The proximity sensor is positioned adjacent the shim (FIG. 1) (Column 5, lines 51-57), with regard to claim 15.
- The proximity sensor is integral with the shim (FIG. 1) (Column 5, lines 51-57), with regard to claim 16.

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4. Claims 1-8, 17, 18 and 20-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Kataoka (US 6,070,023).

**Kataoka teaches an image forming apparatus with back sheet portion determination for a booklet surface sheet comprising:**

- A print medium drive mechanism (FIG.1, sheet supply roller 52a, convey roller 53a, and registration roller 56b) configured to advance the print medium through the print zone (FIG.1, image forming portions 30M, 30C, 30Y and 30K) (From column 4, line 32 to column 5, line 33), with regard to claims 1, 17 and 22.
- A pinch roller mechanism (FIG.1, registration roller 56a) biased against the print medium drive mechanism and configured to deflect away from the print medium drive mechanism as the print medium passes between the pinch roller mechanism and print medium drive mechanism (Column 5, lines 18-33), with regard to claims 1, 17, 18 and 22.
- A proximity sensor (FIG.7, displacement amount detect means 100) configured to measure the extent of deflection of the pinch roller mechanism (Column 9, lines 18-46), with regard to claims 1, 17 and 22.
- A processing device (FIG.2, system controller 71) coupled to the proximity sensor and configured to determine a thickness of the print medium based on the measured extent of deflection of the pinch roller mechanism (Column 9, lines 47-56), with regard to claim 2.
- The proximity sensor is further configured to output a signal indicative of the extent of deflection of the pinch roller mechanism and the processing device is

further configured to receive the signal from the proximity sensor and determine the print medium thickness based on this signal (Column 9, lines 18-46), with regard to claim 3.

- The processing device is further configured to enable initial deposition of printing composition on the print medium by the printing device after receiving the signal from the proximity sensor (FIG. 11, steps 1-8 to 1-9, and column 11, lines 53-59), with regard to claims 4 and 21.
- The apparatus of claims 1 and 22 is in a printing device (FIG.1, image forming apparatus 1) (Column 2, lines 50-56), with regard to claims 5 and 23.
- The print medium drive mechanism includes a drive roller (FIG.1, sheet supply roller 52a, convey roller 53a, and registration roller 56b) (From column 4, line 58 to column 5, line 33), with regard to claims 6 and 20.
- The proximity sensor is positioned adjacent the pinch roller mechanism (FIG.7) (Column 9, lines 18-46), with regard to claim 7.
- The proximity sensor is integral with the pinch roller mechanism (FIG.7) (Column 9, lines 18-46), with regard to claim 8.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



6. Claims 9-16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kataoka in view of Yoshizawa (US 6,301,452).

**Kataoka teaches an image forming apparatus with back sheet portion determination for a booklet surface sheet comprising:**

- A print medium drive mechanism (FIG.1, sheet supply roller 52a, convey roller 53a, and registration roller 56b) configured to advance the print medium through the print zone (FIG.1, image forming portions 30M, 30C, 30Y and 30K) (From column 4, line 32 to column 5, line 33), with regard to claim 9.
- A proximity sensor (FIG.7, displacement amount detect means 100) configured to measure the extent of deflection of shim (Column 9, lines 18-46), with regard to claim 9.
- A processing device (FIG.2, system controller 71) coupled to the proximity sensor and configured to determine a thickness of the print medium based on the measured extent of deflection of the shim (Column 9, lines 47-56), with regard to claim 10.
- The proximity sensor is further configured to output a signal indicative of the extent of deflection of the pinch roller mechanism and the processing device is further configured to receive the signal from the proximity sensor and determine the print medium thickness based on this signal (Column 9, lines 18-46), with regard to claim 11.
- The processing device is further configured to enable initial deposition of printing composition on the print medium by the printing device after receiving the signal

from the proximity sensor (FIG. 11, steps 1-8 to 1-9, and column 11, lines 53-59), with regard to claim 12.

- The apparatus of claim 9 is in a printing device (FIG.1, image forming apparatus 1) (Column 2, lines 50-56), with regard to claim 13.
- The print medium drive mechanism includes a drive roller (FIG.1, sheet supply roller 52a, convey roller 53a, and registration roller 56b) (From column 4, line 58 to column 5, line 33), with regard to claim 14.
- The proximity sensor is positioned adjacent the shim (FIG.7) (Column 9, lines 18-46), with regard to claim 15.
- The proximity sensor is integral with the shim (FIG.7) (Column 9, lines 18-46), with regard to claim 16.

**However, Kataoka does not teach the following:**

- A shim biased against the print medium drive mechanism and configured to deflect away from the print medium drive mechanism as the print medium passes between the shim and print medium drive mechanism

**Meanwhile, Yoshizawa teaches an image forming apparatus comprising:**

- A shim (FIG.1, lower guide 24) biased against the print medium drive mechanism and configured to deflect away from the print medium drive mechanism as the print medium passes between the shim and print medium drive mechanism (From column 5, line 51 to column 6, line 4), with regard to claims 9 and 19.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the image forming apparatus of Kataoka to incorporate the

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teaching of a shim taught by Yoshizawa since Yoshizawa teaches that such a shim is beneficial for detecting the thickness of the transfer material before conveyed to the transfer area and during the printing operation.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant's attention is invited to the followings whose inventions disclose similar devices.

- Paulsen (US 4,690,052) teaches means for compensating for variations in the matrix height and optionally the paper thickness on a rotary printing machine.

**CONTACT INFORMATION**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoai-An D. Nguyen whose telephone number is (703) 305-3343. The examiner can normally be reached on M-F (8:00 - 5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew H. Hirshfeld can be reached on (703) 305-6619. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Hoai-An D. Nguyen  
Examiner  
Art Unit 2854

HADN



**REN YAN  
PRIMARY EXAMINER**